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The 16-channel compactPCI digitizer system uses a mainframe/crate at mounts into a standard 19" instrumentation rack. The mainframe/crate with its own power supply uses a PCI interface to transfer the data acquired by the digitizers to a personal computer (PC) with a Windows 2000/XP operational system (OS).

Minimum specs for the Mainframe/Crate:
Power supply: 400 W
Slots: Holds all 16 digitizer channels + 3 empty slots for future expansion
Empty slots: All empty slots require blanking panels to reduce EMI
Slot format: Holds compact PCI digitizing cards
Mount: Rack-mount for a standard 19" instrumentation rack

Minimum specs for the PCI interface kit:
Allows direct PC control of the compactPCI system. The PCI interface kit includes a PCI card for Windows 2000/XP, a 5 m long data transfer cable, and a module for the mainframe/crate.
Data rate: 100 MB/s

Minimum specs for the digitizing cards:
Card format: compact PCI
Channels: 16 channels + 4 external trigger channels (minimum of 4 digitizing cards)

Digitizer # 1: (minimum of 1 digitizing card)
4 signal channels + 1 external trigger
Resolution: 10 bits
Bandwidth: 1.5 GHz for all channels
Input impedance: 50 Ω
Sampling rate: 2-8 GS/s, (1 channel: 8 GS/s, 2 channels: 4 GS/s, 4 channels: 2 GS/s)
Memory/channel: 256 kpoints
Complete pre- and post-triggering
Full Scale range: 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, and 5 V
Offset Range:
± 2 V from 50 to 500 mV FS (full scale)
± 5 V from 1 to 5 V FS
Maximum input voltage: ± 5 V (50 Ω)

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Minimum specs for the digitizing cards (cont.):

Digitizer # 2: (minimum of 2 digitizing cards)
8 signal channels + 2 external triggers
Resolution: 8 bits
Bandwidth: 250 MHz for all channels
Input impedance: 50 Ω / 1 MΩ
Sampling rate: 1 GS/s for all channels (when all channels are used simultaneously)
Memory/channel: 128 kpoints
Complete pre- and post-triggering
Full Scale range: 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, and 5 V
Offset Range:
50 Ω / 1 MΩ
± 2 V from 50 to 500 mV FS (full scale)
1 MΩ
± 20 V from 1 to 5 V FS
Maximum input voltage: ± 5 V (50 Ω) and 100 V (1 MΩ)

Digitizer # 3: (minimum of 1 digitizing card)
4 signal channels + 1 external trigger
Resolution: 8 bits
Bandwidth: 150 MHz for all 4 channels
Input impedance: 50 Ω / 1 MΩ
Sampling rate: 500 MS/s for all channels (when all channels are used simultaneously)
Memory/channel: 128 kpoints
Complete pre- and post-triggering
Full Scale range: 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, and 5 V
Offset Range:
50 Ω / 1 MΩ
± 2 V from 50 to 500 mV FS (full scale)
1 MΩ
± 20 V from 1 to 5 V FS
Maximum input voltage: ± 5 V (50 Ω) and 100 V (1 MΩ)

Software and drivers for the compactPCI digitizer system:
Software and drivers for Windows XP/2000 for Pentium processors. Supported programming environments include: C/C++, Visual Basic, LabWindowsCVI and LabView.